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10 APR 1961

MEMORANDUM FOR : The Record

SUBJECT : Additional Comment - FWA-523  
Fuel Production

REFERENCE : (a) OXC-1462, dated 21 March 1961, titled  
"Status - FWA-523 Fuel Development"

(b) OXC-1258, dated 25 January 1961, titled  
"Storage and Handling - FWA-523 Fuel"

(c) OXC-0824, dated 19 August 1960, titled  
"Storage and Handling - FWA-523 Fuel"

1. The purpose of this memorandum is to record information supplemental to reference (a) memorandum concerning the production outlook for subject fuel.

2. On 28 March 1961, [redacted] and the writer met with representatives of Pratt & Whitney, [redacted]

[redacted] Refinery comment documented on Attachment 1 reveals that crude availability, process availability, and specification requirements will not limit quantity production of subject fuel. Rather, the possible lack of continuing quantity requirements and market potential evolve as the major considerations for quantity production incentive. Both refineries express definite interest. The comments in detail support the [redacted] position and tend to substantiate but do not clarify the fact that [redacted] had based capability solely upon the restrictive extraction process as stated in reference (a) memorandum. Probably the most significant unanimous comment is the requirement for a continuing production market development. It is understood that both refineries have been allowed to speculate that application may be in the supersonic transport area.

3. It was stressed by the [redacted] representative that normal Government procurement channels will prove wholly inadequate for introduction of and invitation to bid on FWA-523 fuel. The usual form letter identifying specifications and inviting proposals will be met with a routine negative reaction from industry without an unusual prior briefing of technical and production people. This briefing must surface an application indicative of market potential exhibiting comparability with the degree of performance and thermal stability specified, and must be presented in the form of a question such as "what can you do and how much will it cost?"

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4. Both refineries expressed interest in contracting for producing and monitoring subject fuel. Of the several contract types discussed, the following seems to be representative for relatively small initial volumes (5 to 10 million gallons per year) and of particular interest to Headquarters from the fuel handling standpoint. The refinery would contract to manufacture and deliver fuel to the airplane meeting the FWA-523 specification. Capital expenditure could be defined separately or be included in the fuel price with a necessary write-off period. Refinery technical representatives would follow the fuel from refinery, through transportation, and through storage to the vehicle. In the writer's opinion, proposals from both [redacted] should be solicited when requirements are further definitized.

5. Both refineries indicated that subject fuel by virtue of its high thermal stability requirement will be subject to deterioration during handling and storage without certain precautions against chemical contamination and dirt as cited in reference (b) and (c) memoranda. Water transportation (barge and tanker) is expected to be most contributory to fuel deterioration without extreme care. Should water transportation be contemplated, experience must be accumulated prior to use.

6. In order to help answer current questions concerning the logic of using such an extraordinary fuel rather than the currently available, conventional, easy-to-handle fuels, the following points might be stated:

(a) The OXCART vehicle by nature of its extraordinary mission and performance requirements is not an ordinary or conventional machine.

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(c) No other fuel known today is capable of fulfilling the requirement.

(d) The B-70 airplane is paying a terrific cooling penalty in weight and complexity in attempting to utilize a more conventional JP-6. This penalty represents an impossibility for OXCART.

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(e) Any of the conventional fuels if required to meet the thermal stability compatible [redacted] environment (which is an impossibility) would be more susceptible to handling deterioration than FWA-523.

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7. Methods for implementing the handling and operational experience program as recommended in reference (a) memorandum were discussed and will be covered by a separate memorandum.

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[redacted]  
Development Branch  
DPD-DD/P

Attachment:  
As cited

cc: AFCIG-5

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